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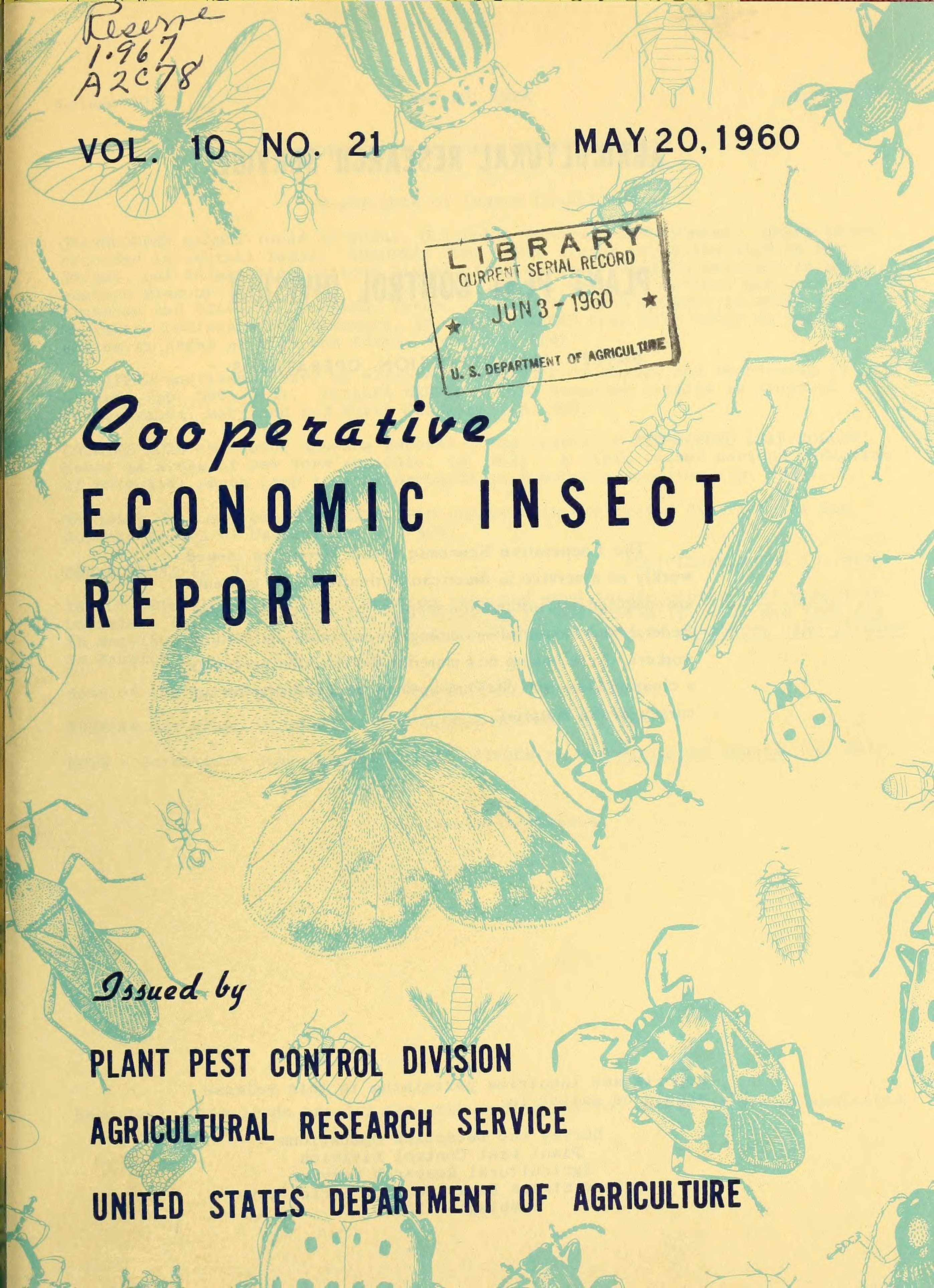

VOL. 10 NO. 21 MAY 20, 1960

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U. S. DEPARTMENT OF AGRICULTURE

Cooperative
ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Survey and Detection Operations
Plant Pest Control Division
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Volume 10 May 20, 1960 Number 21

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

GRASSHOPPER nymphs found in Texas, Oklahoma, Colorado and Wyoming. Heavy hatch recorded in central Texas. EUROPEAN CORN BORER winter mortality high in New Jersey, but infestation outlook highest in 6 years. Pupation recorded in southeastern Missouri. (p. 397). CHINCH BUG light to heavy on sorghum and corn in Atascosa and Victoria Counties, Texas. ARMYWORM larvae present in small grains in Texas, Louisiana and Missouri. (p. 398). WHEAT CURL MITE heavy on small grains in areas of Utah and Idaho. (pp. 399, 414).

PEA APHID continues heavy on alfalfa in a number of states and increasing in others. (pp. 399, 414). ALFALFA WEEVIL larvae damaging alfalfa in areas of Pennsylvania, Maryland and North Carolina. (p. 400).

CODLING MOTH emergence appears general. Egg masses of RED-BANDED LEAF ROLLER heavy in areas of New York and Ohio. (p. 402). A MIRID caused serious reduction of potential pecan crop in some orchards in 3 Georgia counties. (p. 404).

No heavy buildup of BEET LEAFHOPPER expected in cultivated districts of San Joaquin Valley of California. (p. 406).

CORRECTIONS (p. 414). ADDITIONAL NOTES (p. 414).

INSECT DETECTION: New State records reported were lesser clover leaf weevil in Louisiana (p. 401), Margarodes meridionalis in New Mexico (p. 402) and face fly in Maryland (p. 411). A possible new county record may be raspberry cane girdler in Wasatch County, Utah. (p. 407).

Some of the more important insects for 1959. (p. 417).

INSECTS not known to occur in the United States. (p. 421).

NOTE - Scientific name for VARIEGATED CUTWORM is now Peridroma saucia. (p. 401).

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Reports in this issue are for the week ending May 13, unless otherwise indicated.

WEATHER BUREAU 30-DAY OUTLOOK

MID-MAY TO MID-JUNE 1960

The Weather Bureau's 30-day outlook for the period mid-May to mid-June calls for temperatures to average above normal over the northeast quarter of the Nation and also in the extreme Southwest. Below normal temperatures are expected along the Gulf Coast and over the Southeast, as well as in the Western Plateau States and Pacific Northwest. In unspecified areas near normal is predicted. Precipitation is expected to exceed normal over the northern half of the country from the Great Lakes westward to the Pacific Coast, and also over the Central Plains. Subnormal rainfall is indicated for the Middle-Atlantic States, the Tennessee Valley, and also the far Southwest. Otherwise near normal amounts are in prospect.

Weather forecast given here is based on the official 30-day "Resume and Outlook," published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D. C. Price $4.80 a year, $2.40 a half year.

WEATHER OF THE WEEK ENDING MAY 16

The mean temperature pattern this week reflected the meridional flow of sharply contrasting air masses. Much-above-normal temperatures covered the Plateau and Rocky Mountain States during most of the week, with new records for the highest temperature so early in the year established at numerous stations. Some of these records included Great Falls, Montana, 95°; Sheridan, Wyoming, 95°; Winslow, Ariz., 94° on May 12 and Pocatello, Idaho, 90° on May 11. Over a large area from the central Great Lakes through the Mississippi and Ohio Valleys and the Appalachians to the Gulf Coastal and South Atlantic States temperatures more like early March than May prevailed most of the week. Here again numerous temperature records were established, but for the lowest reading so late in the spring. Some of these records included New Orleans, Louisiana, 41°; Apalachicola, Florida, 50°; Meridian, Mississippi, 38° (these readings are also record lows for May); Birmingham, Alabama, 38°; Greenville, South Carolina, 39° on May 13 and Madison, Wisconsin, 27°; Shreveport, Louisiana, 42°; Springfield, Missouri, 30°; Waco, Texas, 45°; Little Rock, Arkansas, 40° on May 12.

Between these two areas of large temperature departures most of the Great Plains Region experienced rapidly changing temperature conditions, with the weekly mean ranging from below normal in eastern sections to above normal in the western portions. An example of extreme temperature changes occurred in west-central Texas, where San Angelo recorded 36° on Thursday morning followed by 107° on Saturday afternoon, both equalling record extremes for the month of May in 51 years of record there. Temperatures were near normal in the Pacific Northwest, and again somewhat above normal in New England. In the latter area, however, the most important weather feature was unusually heavy rains, particularly in Maine, where weekly totals of 3 to over 6 inches were reported. Cloudy, cool, and wet weather persisted most of the week from Ohio and eastern Kentucky northeastward to New England as a low pressure area remained over the area most of the week. Precipitation associated with the disturbance, in addition to the heavy falls in Maine, extended from northern Michigan and Wisconsin into the upper Ohio Valley and the Middle Atlantic States. Weekly totals were generally over 1/2 inch in this area, and local totals of over 2 inches were recorded in Upper Michigan, Pennsylvania, New York, and southern New England.

Cool and rainy weather covered the Pacific Northwest both early and late in the week. Precipitation totals ranged from 1 to 1-1/2 inches along the coast to 1/4 to 3/4 inch in the interior. No effective precipitation was recorded in much of the Plateau States, southern Great Plains, lower Mississippi Valley, and southern States. Thunderstorms on the 15th and 16th were reported from the central Great Plains into the central Mississippi Valley and the western Great Lakes, as a low pressure area developed in the Texas Panhandle and moved northeastward toward the Great Lakes. Heavy hail, accumulating to a depth of 1 foot, was reported in eastern Colorado, and heavy rains of up to 3 inches fell in local areas from Oklahoma northeastward to Illinois and Wisconsin. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - WISCONSIN - In Rock and Sauk Counties, Melanoplus femur-rubrum eggs in coagulated stage; same being true of M. differentialis eggs. However, eggs of Melanoplus sp., probably bilituratus, ranged from coagulated to segmented stages and when placed in a vial some hatched within one hour. It appears, due to numbers of eggs present, nymphs of this advanced species will soon be abundant in the Sauk County location. (Wis. Coop. Sur.). MINNESOTA - Observations on eggs in west central and northwest districts as follows: M. femur-rubrum clear to coagulated; M. bivittatus eye-spot to segmented; M. bilituratus eye-spot to segmented. In southeast district, M. femur-rubrum eggs coagulated. If weather stays warm, some hatching can be expected by May 20 on lighter soils with little ground cover. (Minn. Ins.Rpt.). MISSOURI - First grasshopper nymphs of season reported; size ranged from first to fourth instar. (Blickenstaff). OKLAHOMA - Counts of first-instar grasshopper nymphs ranged 7-15 per square yard in 3 roadside areas checked in Beaver County. (Owens). TEXAS - Aeoloplides turnbulli bruneri, M. bivittatus, M. packardii and M. bilituratus hatching in soil bank fields in Parmer County. First and second-instar nymphs averaging 15-20 per square yard in 6 fields checked. (Russell, Tapscott). Heavy hatch of undetermined species in central area of State. Nymphs still near hatching beds. (Texas Coop. Rpt.). COLORADO - One second-instar nymph of undetermined grasshopper found in 500 sweeps of alfalfa in Larimer County. (Colo. Ins. Sur.). WYOMING - First-instar grasshopper nymphs found on range in Pine Bluffs area, Laramie County. Averaged less than 1 per square yard. (Stanford).

EUROPEAN CORN BORER (Pyrausta nubilalis) - NEW JERSEY - During April, 30 fields in Counties of Monmouth, Middlesex, Mercer, Burlington and Cumberland surveyed for overwintering larvae. Percent mortality in 1960 was 55.3 compared with 32.4 in 1959, 27.1 in 1958, 56.7 in 1957, 42.1 in 1956, 43.7 in 1955 and 20.2 in 1954. Mortality of larvae during winter of 1959-60 higher than previous 2 years. Average number of larvae per infested stalk was 2.36 in 1960, 1.73 in 1959, 1.29 in 1958, 2.12 in 1957, 1.43 in 1956 and 0.9 in 1955. Outlook for infestation this spring in potatoes and corn is highest in 6 years. Highest populations recorded in Mercer County. Bird feeding accounted for most of killing of larvae during winter months (72.3 percent). Parasitism of larvae remained a considerable factor, causing 27.7 percent mortality. (Econ. Ins. Sur.; N. J. Dept. of Agr.; College of Agr., Rutgers Univ.). DELAWARE - Pupation of overwintering larvae as follows: New Castle County - 60 percent; Kent County - 80 percent; Sussex County - 92 percent. Adult emergence started. Several empty pupal cases noted, a few adults collected in fields by sweeping and 5 adults collected in blacklight trap in Sussex County. (Burbutis, Mason). MISSOURI - First pupation of season reported in New Madrid County, southeastern area. (Fairchild).

CORN EARWORM (Heliothis zea) - GEORGIA - Light to moderate infestations in whorls of corn in Cook, Colquitt and Lowndes Counties. (Johnson). LOUISIANA - Larvae in white clover averaged 1 per 25 sweeps in Avoyelles Parish, 7 per 25 sweeps in Tensas Parish and 10 per 25 sweeps in Concordia Parish. Counts averaged 19 per 25 sweeps in crimson clover in Tensas and Concordia Parishes and 9 per 50 sweeps in vetch in Concordia Parish. (Spink). ARKANSAS - Eggs and/or larvae found on spring clovers in 49 counties prior to May 1; first eggs found on April 11. (Whitcomb, Boyer, Dowell). TEXAS - Counts average one per 9 corn plants in Bee and Live Oak Counties. (Edgar). Infestations averaged 1 per 5 sweeps in vetch in Kaufman County. (Randolph).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ARIZONA - Light infestations in some young corn and sorghum in central area. (Ariz. Coop. Sur.).

CORN FLEA BEETLE (Chaetocnema pulicaria) - MARYLAND - Injuring sweet corn in Talbot County and common on field corn in Somerset and Worcester Counties. (U. Md., Ent. Dept.). NEW YORK - On May 5 in Ulster County, examination of 3,000 sweet corn seedlings revealed 40 adults; and at Poughkeepsie on May 6, inspection of 100 seedling sweet corn plants showed 6 adults. (N. Y. Wkly. Rpt.). DELAWARE - Adults causing very light feeding injury on sweet corn in southern Sussex County. (Burbutis, Mason). TEXAS - Adults present in most corn and grain sorghum fields, but infestations apparently not increasing. (Chada). UTAH - Damaging corn and sorghum in Washington County. (Knowlton).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - LOUISIANA - Caused severe damage to cornfield in Tensas Parish; replanting necessary. (Spink).

CHINCH BUG (Blissus leucopterus) - KANSAS - Found in wheat fields in Anderson, Coffey and Lyon Counties, east central area; counts ranged from less than 1 to 5 per linear foot of row. (Peters). TEXAS - Infestations in grain sorghum fields checked following heavy rains in north central area; bugs still found with ease. (Chada). Medium to heavy infestations on grain sorghum and corn in Atascosa County. (Texas Coop. Rpt.). Infestations ranged light to heavy on milo maize and corn in Victoria County. (Texas Coop. Rpt.).

ARMYWORM (Pseudaletia unipuncta) - MARYLAND - Extensive surveys in small grains negative to May 13. (U. Md., Ent. Dept.). MISSOURI - Larval counts in barley in southeast area ranged 0-2 per square foot. Larvae still very small. None found in small grain in southwestern area. (Munson, Thomas, Kyd). LOUISIANA - Larval counts 4 per 100 sweeps in field of oats in East Baton Rouge Parish. (Spink). TEXAS - Larvae (all stages) found in small grains and vetch fields (2-10 per square foot) in north central area. Damage not very apparent so far. (Chada, Randolph).

GREENBUG (Toxoptera graminum) - TEXAS - Infestations disappeared from fields of small grain in north central area due to parasites, predators and heavy rains. (Chada). OKLAHOMA - Populations continued to decrease as a result of parasite activity in oatfield in Marshall County; counts averaged 150 live and 50 mummies per linear foot. (Vinson). KANSAS - Counts in wheat, barley and oat fields in northeastern and east central areas ranged from less than 1 to 100 per linear foot of row. (Peters). MISSOURI - Counts remain light in wheat and barley in southwest. Counts in oats and orchardgrass increased slightly over previous week, ranging 3-6 per foot of row in oats and 3-7 per square foot in orchardgrass. (Munson, Thomas, Kyd). NEBRASKA - Averaged 2 per 10 sweeps in 1 field of barley in Sarpy County. (Simpson).

CORN LEAF APHID (Rhopalosiphum maidis) - TEXAS - Medium infestation on grain sorghum in Wharton County. (Murray). Light and widespread on grain sorghum in McMullen County. Lady beetles present in large numbers. (Edgar). Infestations appear somewhat lighter on grain sorghum in Nueces, Bee and Live Oak Counties. (Nolan, Edgar).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - KANSAS - Counts in wheat, barley and oat fields in northeast and east central areas ranged 0-25 per linear foot of row. (Peters).

ENGLISH GRAIN APHID (Macrosiphum granarium) - KANSAS - Found in 1 wheatfield in Shawnee County; counts averaged less than 1 per linear foot of row. (Peters).

APHIDS - ILLINOIS - Undetermined species ranged 0-3 per linear foot in wheat and rye in White County; averaging 0.8 per linear foot. (Ill. Ins. Rpt.).

RICE STINK BUG (Oebalus pugnax) - LOUISIANA - Averaged 21 per 25 sweeps in oats in East Baton Rouge Parish. (Spink).

A GRASS BUG (Thyrillus pacificus) - OREGON - Causing damage to wheat in Wasco County; injury reported thus far has been to field margins. (Every).

BROWN WHEAT MITE (Petrobia latens) - COLORADO - Damaging numbers present in borders of wheat fields in Baca County. (Colo. Ins. Sur.). OKLAHOMA - Averaged 500 per linear foot in 3 wheat fields checked in Beaver County; causing heavy damage to plants. Plants in boot to heading stage. (Owens).

WHEAT CURL MITE (Aceria tulipae) - UTAH - Abundant on fall wheat in Cornish area of Cache County. (Knowlton).

A HYDROPHILID (Tropisternus sp.) - CALIFORNIA - Medium to heavy damage to newly planted sprouting rice in Colusa area, Colusa County. This water scavenger beetle uprooting rice plants. (Cal. Coop. Rpt.).

WIREWORMS - SOUTH DAKOTA - Undetermined species averaged 1 per 3 linear feet of row in wheat in Roberts and Grant Counties. (Mast).

PEA APHID (Macrosiphum pisi) - DELAWARE - Populations remain very high on alfalfa throughout State. Severe yellowing and stunting injury conspicuous in many fields. (Burbutis, Mason). MARYLAND - Continues abundant on alfalfa and clover in all sections; declining somewhat over previous weeks. (U. Md., Ent. Dept.). PENNSYLVANIA - Beginning to appear in alfalfa in numbers in southern area; heavy in some fields. (Pepper). NEW YORK - Populations on alfalfa appear higher, compared with 2 previous years. (N. Y. Wkly. Rpt.). VIRGINIA - Many reports of damage to alfalfa. Conditions favorable for rapid buildup. (Rowell). OHIO - Exceptionally heavy in alfalfa in Sandusky County; controls recommended. (Holdsworth). ILLINOIS - Counts ranged 30-60 per 100 sweeps in clover and alfalfa in Macoupin County. (Ill. Ins. Rpt.). MINNESOTA - Counts 1 per 20 sweeps on alfalfa in southeast. (Minn. Ins. Rpt.). NEBRASKA - Increasing on alfalfa in southern and eastern areas. Heaviest numbers, 25 per 10 sweeps, in Douglas County in Elkhorn Valley. Average 4 per 10 sweeps in other fields in eastern area. (Simpson). KANSAS - Counts in alfalfa in northeast and east central areas ranged 5-150 per sweep. (Peters). OKLAHOMA - Light to heavy populations, 6-25 per sweep and 4-600 per square foot, noted in 5 alfalfa fields in south central area. (Vinson). Light populations in alfalfa checked in Beaver, Okfuskee and Choctaw Counties and in some alfalfa checked in southwest area. (Owens, Meharg, Hatfield, Goin). No live aphids noted in field checked in Payne County. Many dead aphids found on plants. (Stiles). TEXAS - Counts ranged 50-500 per 5 sweeps on vetch in Kaufman County and averaged 50 per sweep on alfalfa in Brazos and Burleson Counties. Parasites and predators very abundant in fields. (Randolph). COLORADO - Counts 10-50 per 100 sweeps in alfalfa, Mesa and Montrose Counties; 100-150 per 100 sweeps in Larimer and Weld Counties. (Colo. Ins. Sur.). WYOMING - Averaged 4 per 25 sweeps in alfalfa fields near Cody, Powell and Lovell. Averaged 1-2 per sweep in fields in Basin-Worland area. (Fullerton). UTAH - Building up in some Salt Lake County alfalfa fields. (Knowlton).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEW MEXICO - Generally light to medium, with heavy spotty infestations, in Eddy and Chaves Counties. Growers controlling heavy infestations. (N. M. Coop. Rpt.). TEXAS - Very scarce following heavy rains and abundance of parasites and predators in north central area.(Chada). OKLAHOMA - Light or noneconomic populations found in alfalfa fields checked in Beaver, Payne, Okfuskee, Harmon, Tillman, Comanche and Choctaw Counties and other fields checked in south central area. (Okla. Coop. Sur.).

SWEETCLOVER APHID (Therioaphis riehmi) - NEBRASKA - Low populations on yellow sweetclover in Cass, Sarpy, Douglas, Seward and York Counties; counts ranged 0-4 and averaged 2 per 10 sweeps. (Simpson). First nymphs of season collected April 22. First stem mother and reproductions found on May 9 in Lancaster County. (Manglitz).

COWPEA APHID (Aphis medicaginis) - NEW MEXICO - Medium to heavy, spotty infestations in alfalfa in Chaves County; increasing in some fields. (N. M. Coop. Rpt.).

TARNISHED PLANT BUG (*Lygus lineolaris*) - MARYLAND - Averaged 5 per sweep on red clover coming into bloom at Collington, Prince Georges County. (U. Md., Ent. Dept.). LOUISIANA - Total of 169 adults and 127 nymphs taken in 100 sweeps of crimson clover in Tensas Parish. (Spink). SOUTH DAKOTA - Counts averaged 1-3 per 10 sweeps on alfalfa in southeastern and east central areas. (Mast). MINNESOTA - Some noted on alfalfa in southeast. (Minn. Ins. Rpt.).

LYGUS BUGS (*Lygus* spp.) - ARIZONA - Populations continue to build up in alfalfa statewide; counts average 15-40 per 10 sweeps in all areas. Heavy populations also present in central area on safflower. (Ariz. Coop. Sur.). NEW MEXICO - Generally light to medium in alfalfa in Chaves and Eddy Counties, averaging 16-20 per 100 sweeps. (N. M. Coop. Rpt.). WYOMING - Counts in alfalfa averaged 2-4 per 25 sweeps in Big Horn Basin and in Fremont County. (Fullerton). COLORADO - Counts 10 per 100 sweeps on alfalfa in Larimer and Weld Counties. (Colo. Ins. Sur.). OKLAHOMA - Light to medium, 3-8 per sweep, in 2 alfalfa fields in south central area. None noted in 3 other fields checked. (Vinson). Populations light to heavy, 0.25-2 per sweep, in 4 alfalfa fields surveyed in Choctaw County. (Goin).

THREE-CORNERED ALFALFA HOPPER (*Spissistilus festinus*) - TEXAS - Counts of adults averaged 1 per 25 sweeps on alfalfa in Burleson County. (Randolph).

SIX-SPOTTED LEAFHOPPER (*Macrosteles fascifrons*) - MINNESOTA - Light on alfalfa in southeast. (Minn. Ins. Rpt.).

RAPID PLANT BUG (*Adelphocoris rapidus*) - DELAWARE - Nymphs increasing on alfalfa and clover throughout State, averaging 2-3 per sweep in several fields. (Burbutis, Mason).

MEADOW SPITTLEBUG (*Philaenus leucophthalmus*) - DELAWARE - Nymphs present in alfalfa and clover fields throughout State; most now approximately two-thirds grown. (Burbutis, Mason). MARYLAND - Common, but not abundant, on red clover in Prince Georges and Talbot Counties. (U. Md., Ent. Dept.).

FALSE CHINCH BUGS (*Nysius* spp.) - ARIZONA - Medium populations in grain fields in Pinal County. (Ariz. Coop. Sur.). WYOMING - Averaged 2 per 25 sweeps in 18 alfalfa fields checked in Big Horn Basin. One field near Lovell and 1 field near Basin averaged 8 nymphs per square foot on ground near base of alfalfa plants. (Fullerton).

ALFALFA WEEVIL (*Hypera postica*) - NEW YORK - Adults ranged 5-10 per 25 sweeps in alfalfa in Dutchess and Putnam Counties on May 1. Several precocious,early second-instar larvae also picked up in net sweeps. Adults also found in Suffolk County (about 1 per sweep) and were numerous in Rondout Valley in Ulster County on May 5, with a few larvae present in latter area. (N. Y. Wkly. Rpt.). NEW JERSEY - First major hatch of larvae appearing May 10 in central area. Considerable acreage will be cut before treatments are required. (Ins.-Dis. Newsl.). PENNSYLVANIA - Beginning to appear and damage to alfalfa increasing in Fulton and Mifflin Counties. (Udine). DELAWARE - Untreated fields beginning to show heavy larval feeding injury in most areas. Fresh egg masses still present and hatching, with first-instar larvae very common in many fields. Third instars predominating, with a few older larvae and pupae noted. (Burbutis, Mason). MARYLAND - Heavy larval damage noted to alfalfa in southern Allegany County. Generally, however, not as abundant as in previous years. (U. Md., Ent. Dept.). NORTH CAROLINA - Causing heavy injury this year for first time in heavy alfalfa production area in northwestern Buncombe County. (Palmer). Some fields of clover so heavily damaged by larvae in central Piedmont that control would have been profitable this season. (Campbell). Active on clover in Gates County. (Newsom, Farrier). Adults reared from larvae collected on clover and grass pasture in Johnston County on April 29. (Carroll, Farrier). WYOMING - Adult activity increased in Big Horn Basin and in Fremont County. Average height of alfalfa 4-10 inches. In a total of 46 fields examined at 9 locations, an average of 1-3 adults found per 25 sweeps. One larva found near Worland. (Fullerton). COLORADO - Larvae ranged 1-10 per 100 sweeps in alfalfa in Montrose and Mesa Counties. No larvae found in 5 fields in Larimer and Weld Counties. (Colo. Ins. Sur.).

CLOVER LEAF WEEVIL (Hypera punctata) - OHIO - Numerous in central area, with damage noted. Not serious enough to spray. (Holdsworth). Overwintering adults collected this spring and kept in insectary observed laying eggs April 20-25. Overwintering larvae started forming cocoons in insectary on May 2. (Sechriest). ILLINOIS - Larvae ranged 10-15 per square foot in Tazewell County. (Ill. Ins. Rpt.). WISCONSIN - Larvae present in low numbers. (Wis. Coop. Sur.). KANSAS - Counts less than 1 larva per sweep in alfalfa in northeastern and east central areas. (Peters).

LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris) - LOUISIANA - One adult found in crimson clover at Franklinton, Washington Parish. This is a new State record. (Spink, Apr. 28). MARYLAND - Larvae common in leaf axils and buds of red clover in Talbot County. (U. Md., Ent. Dept.). OHIO - Adults collected from hibernation first part of April and first eggs laid on April 12 in insectary. A collection of one stem from each of 12 clover plants taken on April 13, and 2 stems contained recently laid eggs deposited in stipules. In insectary, hatch first observed on April 25. A collection of stems from Wayne County on April 26 showed eggs on 51 percent of sprouts and one larva observed. In a Wayne County clover field, one adult observed per 75 sweeps on May 3. (Sechriest).

A CLOVER HEAD WEEVIL (Hypera meles) - OHIO - Female collected on clover in Wayne County on April 19 and a male collected on wild plum in Geauga County on May 4. (Sechriest, Rings).

A WEEVIL (Hypera sp.) - LOUISIANA - Averaged 1 larva per 100 sweeps in white clover in Avoyelles Parish and 7 per 25 sweeps in Tensas Parish. Other counts were 5 larvae per 25 sweeps in Concordia Parish, 1 adult per 25 sweeps in Concordia and Tensas Parishes and 3 adults and 139 larvae in 100 sweeps in crimson clover in Tensas Parish. (Spink).

CLOVER ROOT CURCULIO (Sitona hispidula) - KANSAS - Adults found in alfalfa field in Franklin County, southeast area. Counts averaged less than 1 per sweep. (Peters). NEBRASKA - Counts low in most alfalfa fields, averaging 1.5 per 10 sweeps. (Simpson).

SWEETCLOVER WEEVIL (Sitona cylindricollis) - NEBRASKA - Low populations, but well distributed in most counties. Counts average 2 and range 1-5 per 10 sweeps. One field in Cass County was 10 percent damaged with counts of 8 adults per 10 sweeps. (Simpson).

A WEEVIL (Sitona scissifrons) - SOUTH DAKOTA - Counts averaged 6-10 per 10 sweeps on alfalfa in southeast and east central areas. (Mast).

VETCH BRUCHID (Bruchus brachialis) - LOUISIANA - Counts averaged 9 per 30 sweeps in field of vetch in Concordia Parish. (Spink). TEXAS - Averaged 2-10 per 5 sweeps in vetch in Kaufman County. (Randolph).

ARMY CUTWORM (Chorizagrotis auxiliaris) - SOUTH DAKOTA - Causing considerable damage to wheat in McPherson County. (Mast). UTAH - Killing out newly planted alfalfa acreage and damaging barley fields in Cornish area of Cache County. (Knowlton).

VARIEGATED CUTWORM (Peridroma saucia)* - TEXAS - Infestations ranged 3-7 per square foot in vetch in a few fields of Kaufman County. (Randolph). CALIFORNIA - Heavy populations in alfalfa in Escondido, San Diego County. (Cal. Coop. Rpt.).

ALFALFA CATERPILLAR (Colias philodice eurytheme) - WYOMING - Adults becoming numerous in alfalfa fields in Big Horn Basin. (Fullerton). OKLAHOMA - Light, 1 per sweep, in 2 alfalfa fields checked in south central and southeastern areas. (Vinson, Goin).

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* Forbes, W. T. M., 1954. Lepidoptera of New York and neighboring states. Pt. 3, (Noctuidae): 51.

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Light, 1-1.5 per sweep, in 2 alfalfa fields in south central area. (Vinson). Light, 1 per sweep, in 1 field in Choctaw County. (Goin).

A CUTWORM (Feltia ducens) - WYOMING - Averaged less than one per square foot in 5 (1 square foot samples) in 16 alfalfa fields and 8 wheat fields in Big Horn Basin. (Fullerton).

A WEBWORM (Loxostege sp.) - OKLAHOMA - Light, averaged 1 per sweep, in alfalfa-field checked in south central area. (Vinson).

THRIPS - GEORGIA - Light to moderate infestations of unspecified species on peanuts in Crisp, Colquitt, Cook, Lowndes, Wayne and Tattnall Counties. (Johnson). NEW MEXICO - Heavy populations of Frankliniella occidentalis on alfalfa throughout southern half of State. Seedling stands in Dona Ana County required controls. (N. M. Coop. Rpt.).

A SAWFLY (Dolerus sp.) - ILLINOIS - Larval counts were 10 and 90 per 100 sweeps in 2 of 5 grass fields surveyed in Urbana area. (Ill. Ins. Rpt.).

A GROUND PEARL (Margarodes meridionalis) - NEW MEXICO - Damaging Bermuda grass lawns in Las Cruces, Dona Ana County. (N. M. Coop. Rpt.). This is first ARS record of species in State.

A CHINCH BUG (Blissus sp.) - GEORGIA - Heavy infestations on centipedegrass in Grady County. (Crownover).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - DELAWARE - Adults observed emerging since May 5. (MacCreary). PENNSYLVANIA - Emerging in apple orchards in south central area. (Asquith). INDIANA - First cage emergence was May 4 in Vincennes area. (Cleveland). No moths noted to May 10 in Orleans area. (Marshall). ILLINOIS - Emergence nearly stopped May 7-8 in Carbondale area, due to cold weather, which means it is also too cold for egg laying. Continued cool weather will cut egg production. More moths will continue to emerge as weather permits and egg laying will probably occur over a longer period than usual. (Meyer). UTAH - Moth flight common in northern area orchards May 11-12. Maximum of 6 moths caught in Davis County trap, May 9; 12 in a trap at Roy, May 11; and 13 at Logan, May 12. (Davis, Knowlton). OREGON - Emerged in Milton-Freewater area May 10. (Brown). First moth caught in bait pan May 9 in Medford, Jackson County. (Gentner).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - NEW YORK - Largest number of moths caught so far this year taken in bait traps May 2 in eastern part of State. Egg laying increased markedly in Ulster County, but hatch may be late in relation to fruit development. Eggs more numerous in Columbia County than for past 2 years, with hatching observed May 10. Adults and eggs observed in lake zone orchards of Niagara County May 5. Very heavy emergence observed in Orleans County May 3-4 and egg masses readily observed May 4-5; one heavily infested orchard receiving treatment May 3-4, showed no moths and only occasional egg mass May 5. Very heavy flight occurred May 3-4 in Monroe County; egg masses first observed May 4; number of growers applied controls; sudden warm weather caused moths to emerge rapidly, but control application greatly reduced moth flight. Egg masses observed May 2 in orchards located as close as one-half mile from Lake Ontario. (N. Y. Wkly. Rpt.). MARYLAND - Light numbers noted on apple at Hancock,, Washington County. (U. Md., Ent. Dept.). OHIO - Serious infestation found in apples in western Washington County, May 4; larvae ranged from newly hatched to full grown. (Stacy). Adults taken in traps in orchards and vineyards May 2 and eggs observed on apple trees May 5, all in Lake County (Still); eggs found in a Franklin County Orchard (Blair, Holdsworth); numerous egg masses reported from Ashtabula County May 9 (Bossley). ILLINOIS - Damage difficult to find in the Carbondale area. Another leaf roller has appeared in many orchards in the area and in sufficient numbers in some to warrant control. Undetermined leaf roller being reared for identification. (Meyer). MISSOURI - First brood almost over in southeast area, but in Independence area feeding signs still noted. (Wkly. Rpt. Fr. Gr.).

ORIENTAL FRUIT MOTH (*Grapholitha molesta*) - INDIANA - Emerging in large numbers in packing houses in Orleans area. (Marshall,May 10). ILLINOIS - No larvae have been found wilting twigs in Carbondale area as of May 11. (Meyer). OREGON - First moth of season collected in bait trap in Salem on May 9. (Larson).

PLUM CURCULIO (*Conotrachelus nenuphar*) - GEORGIA - Oldest larvae about 10 days old May 5, and emergence of matured larvae from peach drops to enter soil will begin at Ft. Valley, week of May 9. First-generation adults expected to begin emerging from soil middle of June and be ready to deposit second-generation eggs in peaches latter part of June or early July. (Snapp). DELAWARE - Injury to young peach and apple fruit noted. (MacCreary). NEW YORK - Number jarred from trees in eastern part of State on May 6 increased to 12. (N. Y. Wkly. Rpt.). INDIANA - One jarred from 3 abandoned apple trees at one location in Marshall County, May 4. (Matthew).

CALIFORNIA PEAR-SLUG (*Pristiphora californica*) - OREGON - Light infestation found on unsprayed home pear trees in Medford, Jackson County; larvae one-third to one-half grown. (Gentner).

PEAR PSYLLA (*Psylla pyricola*) - NEW YORK - Eggs ready to hatch in Orleans County; very few recently laid eggs found. Nymphs noted in some pear orchards in Oswego County. (N. Y. Wkly. Rpt., May 9).

FRUIT TREE LEAF ROLLER (*Archips argyrospila*) - DELAWARE - Larvae rather common on apple foliage. (Burbutis, Mason). NEW YORK - Fairly common on young tree terminals in Ulster County. (N. Y. Wkly. Rpt., May 9).

OMNIVOROUS LEAF TIER (*Cnephasia longana*) - CALIFORNIA - Heavy infestations on apple in Watsonville, Santa Cruz County. (Cal. Coop. Rpt.).

EASTERN TENT CATERPILLAR (*Malacosoma americanum*) - MARYLAND - Well controlled in commercial apple orchards at Hancock, Washington County. (U. Md., Ent. Dept.).

CANKERWORMS - MISSOURI - Caused some damage to foliage of apple trees in west central area. (Wkly. Rpt. Fr. Gr.).

APPLE APHID (*Aphis pomi*) - INDIANA - Increasing rapidly on apples in Orleans area. (Marshall, May 10). MISSOURI - Rather general infestations noted in Kansas City area. (Wkly. Rpt. Fr. Gr.).

ROSY APPLE APHID (*Anuraphis roseus*) - MARYLAND - Abundant and increasing on apples in Hancock area, Washington County. (U. Md., Ent. Dept.). NEW YORK - Few noted in orchard in Monroe County. (N. Y. Wkly. Rpt.). OHIO - Curling leaves in southern, central and northern orchards, but not causing severe damage to May 11. (Stacy, Blair, Holdsworth, Bossley). INDIANA - Increasing rapidly on apples in Orleans area. (Marshall, May 10). COLORADO - Numerous in Delta and Montrose Counties. (Colo. Ins. Sur.).

WOOLLY APPLE APHID (*Eriosoma lanigerum*) - NEW MEXICO - Building up in cracks and pruning wounds in unsprayed orchards throughout State. (N. M. Coop. Rpt.).

APHIDS - WISCONSIN - Unspecified species on apples have been reported, but weather has been sufficiently cold to keep populations from building up. (Wis. Coop. Sur.).

OYSTERSHELL SCALE (*Lepidosaphes ulmi*) - WISCONSIN - Heavy populations on apples reported in Langlade County. (Wis. Coop. Sur.).

TARNISHED PLANT BUG (Lygus lineolaris) - NEW YORK - Feeding on apple buds in Columbia County, May 3. (N. Y. Wkly. Rpt.).

EUROPEAN RED MITE (Panonychus ulmi) - MARYLAND - Populations have dwindled due to rain, but first-generation eggs are hatching. (U. Md., Ent. Dept.). NEW YORK - Appearing in large numbers in Ulster County where controls not applied; eggs very scarce in Orleans County; began hatching May 4 in Monroe County, but eggs and nymphs continue to be scarce. (N. Y. Wkly Rpt., May 9). OHIO - Building up to damaging numbers in orchards where controls have not been used this year in northeastern area. (Bossley). INDIANA - Eggs averaged more than 30 per leaf on untreated trees in Vincennes area. (Cleveland, May 9).

A FRUIT TREE MITE (Bryobia rubrioculus) - COLORADO - Numerous in apple trees in Montrose and Delta Counties. (Colo. Ins. Sur.).

GREEN PEACH APHID (Myzus persicae) - COLORADO - Populations remain light in peach orchards in Mesa County. (Colo. Ins. Sur.).

LYGUS BUGS (Lygus spp.) - COLORADO - Light populations present in Mesa County peach orchards. (Colo. Ins. Sur.). UTAH - Numerous in Cache Valley orchards; largely L. elisus. (Knowlton).

A SPIDER MITE - TEXAS - Light, widespread infestations of an unspecified species present on leaves of peach trees in Blanco County. (Massey).

EYE-SPOTTED BUD MOTH (Spilonota ocellana) - OREGON - Infestations common in Willamette Valley cherry orchards, with larvae now reaching maturity within webbed leaves. (Capizzi).

A SPRINGTAIL (Achorutes armata) - CALIFORNIA - This and Rhizoglyphus sp. occurred on roots of cherry trees on Mahaleb rootstock in Napa, Napa County. (Cal. Coop. Rpt.).

OLIVE LEAF MITE (Oxypleurites maxwelli) - CALIFORNIA - Heavy infestation occurring on olive trees in Corning area, Tehama County. Mites infesting blossoming olive and causing heavy blossom drop. (Cal. Coop. Rpt.).

PECAN NUT CASEBEARER (Acrobasis caryae) - FLORIDA - First eggs collected on young nuts at Monticello, Jefferson County, on May 4. (Phillips). TEXAS - Adults have emerged from overwintering forms in north central area. (Randolph). OKLAHOMA - Damaged 15 percent of twigs in a grove of native pecan trees surveyed in Johnston County. (Vinson).

PECAN LEAF CASEBEARER (Acrobasis juglandis) - TEXAS - Causing some ragging of pecan leaves in College Station area, Brazos County. (Randolph).

FALL WEBWORM (Hyphantria cunea) - FLORIDA - First colony of young larvae observed feeding on pecan foliage at Monticello, Jefferson County, on May 4. (Phillips).

PECAN BUD MOTH (Gretchena bolliana) - FLORIDA - Larvae feeding on young pecan nuts in Jefferson County on May 4. Feeding damage similar to that caused by first-generation Acrobasis juglandis. (Phillips).

PECAN PHYLLOXERA (Phylloxera devastatrix) - TEXAS - Medium, widespread infestation present on pecans in Gillespie County. (Texas Coop. Rpt.).

A MIRID - GEORGIA - An unspecified species feeding on female flowers of pecans in Bibb, Crisp and Pierce Counties; has caused serious reduction of potential nut crop in some orchards. (Maxwell, Johnson).

SPITTLEBUGS - TEXAS - Medium, widespread infestations of unspecified species present on pecans in Edwards and Gillespie Counties. (Texas Coop. Rpt.).

APPLE MEALYBUG (Phenacoccus aceris) - OREGON - Survey begun May 4 disclosed many filbert orchards in Linn and Marion Counties infested; egg laying continues, but no hatching observed as of May 11. (Larson).

MEXICAN FRUIT FLY (Anastrepha ludens) - CALIFORNIA - Trapping activities geared to summer detection by moving McPhail traps from winter to summer host trees now that deciduous fruit trees have leafed out. Season bait spray treatment was resumed in mid-April, with 4,587 host trees and 3,666 roadside trees and shrubs treated. Bait spray will be applied at 21-day intervals during critical summer-fall season. All trap and fruit inspections have been negative. (Cal. Coop. Rpt.).

A FULGORID - TEXAS - An unspecified species causing light damage to citrus trees and fruit in Hidalgo County. (Plyler).

GRAPE FLEA BEETLE (Altica chalybea) - NORTH CAROLINA - Severe injury to grapes locally in Duplin and Sampson Counties. (Boyette, Boney, Farrier).

TRUCK CROP INSECTS

IMPORTED CABBAGEWORM (Pieris rapae) - DELAWARE - First and second-instar larvae average one per plant on cabbage in western Kent County. (Burbutis, Mason). NEW YORK - Eggs 1-2 per plant on broccoli May 10 in Orange County, with hatching observed May 13. (N. Y. Wkly. Rpt.).

A FLEA BEETLE (Phyllotreta cruciferae) - DELAWARE - Adults on cabbage in eastern Kent County causing light feeding injury. (Burbutis, Mason).

GREEN PEACH APHID (Myzus persicae) - DELAWARE - Alates, with few small nymphs, common on cabbage in western Kent County and few alate forms on horseradish in eastern part of county. Alates present in most commercial potato fields over State. (Burbutis, Mason).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - NEW YORK - Easily found in many fields of potatoes in Suffolk County around plants which have emerged; also present on early tomato plantings. (N. Y. Wkly. Rpt., May 9). MARYLAND - All stages common on untreated potatoes in southern sections of State. (U. Md., Ent. Dept.). GEORGIA - Light to moderate on tomatoes in Colquitt, Cook and Lowndes Counties and heavy on same crop in Tattnall County. (Smith). LOUISIANA - Averaged one larva per plant in field of potatoes in Livingston Parish; only one adult was collected. Field required treatment. (Spink).

CUCUMBER BEETLES - LOUISIANA - Average counts per 100 sweeps on potatoes in Pointe Coupee Parish were 2 Acalymma vittata, 8 Diabrotica undecimpunctata howardi and 2 D. balteata. (Spink).

POTATO FLEA BEETLE (Epitrix cucumeris) - DELAWARE - Adult numbers noticeably increased over past week, especially in southern New Castle and western Kent Counties; feeding injury rather heavy in these areas. (Burbutis, Mason). MARYLAND - This species and E. hirtipennis very active on potatoes and tomatoes in southern sections. Heavy injury noted to 3-acre field of potatoes at Morganza, St. Marys County. (U. Md., Ent. Dept.).

LEAF MINERS - SOUTH CAROLINA - Occur rather generally on tomatoes, but damage light on 800 acres in Sumter County. (Nettles et al.).

POTATO APHID (Macrosiphum solanifolii) - DELAWARE - Alates present in most commercial potato fields in all counties and in a field of horseradish in eastern Kent County. (Burbutis, Mason). MARYLAND - Light, but building up on potatoes and tomatoes on lower Eastern Shore. (U. Md., Ent. Dept.).

POTATO PSYLLID (Paratrioza cockerelli) - COLORADO - None found on Lycium in Larimer County. (Colo. Ins. Sur.).

SPRINGTAILS - MARYLAND - Unspecified species abundant on potatoes, beans and tomatoes in southern sections of the State; probably due to recent cool weather. (U. Md., Ent. Dept.).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MARYLAND - Adults abundant and damage conspicuous on snap beans in all sections. (U. Md., Ent. Dept.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - GEORGIA - Heavy on beans in Tift, Colquitt, Cook, Lowndes, Ware, Wayne and Schley Counties. (Girardeau, Reid, Johnson).

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - The first nymphs of the spring generation were found March 7 near Coalinga and by March 21 nymphal populations were sufficient to warrant spraying in the breeding grounds adjacent to Coalinga and Maricopa. A total of 30,941 acres were treated in San Joaquin, Stanislaus, Merced, Fresno and Kern Counties. Population surveys began April 18 in cultivated areas in San Joaquin Valley to determine the extent of migrations. Compared with 1959 the population appeared slightly heavier from the foothills into the valley as far north as Delano. Counts ranged from 50 per 100 sweeps near the foothills to about 10 per 100 sweeps in the valley. In the Shandon area, counts averaged about 2 per foot of row on small beets and in the Salinas Valley no counts of consequence were found. Another survey of cultivated areas will be made in May, but unless adverse conditions develop, such as a second generation in some locations, no heavy buildup is expected. (Bur. Ent., Cal. Dept. Agri.).

GARDEN SYMPHYLID (Scutigerella immaculata) - COLORADO - Causing considerable loss of stand in one field of sugar beets near Johnstown, Mesa County. (Colo. Ins. Sur.).

ASPARAGUS BEETLES (Crioceris spp.) - MARYLAND - C. asparagi and C. duodecimpunctata common on asparagus ferns in Talbot County. (U. Md., Ent. Dept.).

CABBAGE LOOPER (Trichoplusia ni) - NEW MEXICO - Most growers have larvae under control as harvest continues in Las Cruces-Hatch area of Dona Ana County. Light infestations have been controlled in Eddy County. (N. M. Coop. Rpt.).

CORN EARWORM (Heliothis zea) - CALIFORNIA - Medium on lettuce plantings in Nestor, San Diego County. (Cal. Coop. Rpt.).

THRIPS - MARYLAND - Moderate infestations of unspecified species on onions at 3 localities in Somerset and Worcester Counties. (U. Md., Ent. Dept.). NEW MEXICO - Frankliniella occidentalis continues to be a problem in most onion fields in Dona Ana and Luna Counties; most growers applying controls. (N. M. Coop. Rpt.).

MELON APHID (Aphis gossypii) - CALIFORNIA - Heavy populations occurring on vines of watermelon in Vina, Tehama County. (Cal. Coop. Rpt.).

STRAWBERRY LEAF ROLLER (Ancylis comptana fragariae) - NEW YORK - Adults appeared in large numbers May 2 in an infested strawberry planting at Marlboro. Moths active and problem on only 1 or 2 farms in Ulster County where good control was not obtained against larval stage. (N. Y. Wkly. Rpt., May 9). INDIANA - Active on strawberries in Orleans area. (Marshall, May 10). WISCONSIN - Pupating in southeastern area of State. (Wis. Coop. Sur.).

STRAWBERRY CROWN BORER (Tyloderma fragariae) - INDIANA - Active on strawberries in Orleans area. (Marshall, May 10).

STRAWBERRY WEEVIL (Anthonomus signatus) - INDIANA - Active on strawberries in Orleans area. (Marshall, May 10). NEW YORK - Found in only one Suffolk County strawberry planting inspected. (N. Y. Wkly. Rpt., May 9).

STRAWBERRY APHID (Pentatrichopus fragaefolii) - DELAWARE - Apterous adults and young fairly common on strawberries in New Castle County. (Burbutis, Mason).

TARNISHED PLANT BUG (Lygus lineolaris) - NEW YORK - Present on early varieties of strawberries showing fruit buds in Oswego County. (N. Y. Wkly. Rpt., May 9).

MEADOW SPITTLEBUG (Philaenus leucophthalmus) - INDIANA - Not numerous on strawberries in Orleans area, but developed far enough to make control relatively easy. (Marshall, May 10).

SPIDER MITES - MARYLAND - Severe damage to several fields of strawberries, by unspecified species, observed near Salisbury, Wicomico County. (U. Md., Ent. Dept.). NEW YORK - Injury by Tetranychus telarius serious in several Suffolk County strawberry plantings inspected May 3. Numbers being kept well below economic levels where controls begun early. (N. Y. Wkly. Rpt., May 9).

OBLIQUE-BANDED LEAF ROLLER (Archips rosaceana) - OREGON - Infesting 10 percent of tips of evergreen blackberry plantings in Salem-Keizer area. (Larson).

RASPBERRY CANE GIRDLER (Oberea bimaculata) - UTAH - Damaging raspberry plantings in Heber area, Wasatch County. This may be a new county record. (Davis, Knowlton, Daniels).

ROSE SCALE (Aulacaspis rosae) - CALIFORNIA - Occurring as a heavy infestation on raspberry bushes in Watsonville, Santa Cruz County. (Cal. Coop. Rpt.).

TOBACCO INSECTS

GREEN PEACH APHID (Myzus persicae) - GEORGIA - Light infestations on tobacco in Colquitt, Cook, Berrien, Ware, Pierce, Wayne, Tattnall and Candler Counties. (Johnson).

BUDWORMS (Heliothis spp.) - GEORGIA - Light to heavy infestations on tobacco in Colquitt, Cook, Berrien, Ware, Pierce, Wayne, Tattnall and Candler Counties. (Johnson).

FLEA BEETLES - SOUTH CAROLINA - Damage to leaves serious on newly set tobacco in Marion County. (Nettles et al).

WIREWORMS - SOUTH CAROLINA - Damage much heavier than usual on tobacco in Marion County. (Nettles et al.).

COTTON INSECTS

THRIPS - GEORGIA - Moderate infestations of unspecified species on cotton in Randolph, Calhoun, Dooly, Crisp, Turner and Wilcox Counties. (Maxwell). Moderate to heavy infestations in Colquitt, Cook, Berrien, Lowndes, Ware, Pierce, Wayne, Tattnall, Candler, Johnson and Washington Counties. (Johnson). MISSISSIPPI - Populations building up on oats, clover, vetch and other host plants. Little movement to cotton has occurred in delta area. Some cotton treatments underway, but counts do not indicate injurious infestations on cotton. (Merkl et al.). LOUISIANA - Present in most cotton fields in Tallulah area, especially in early planted fields where damage apparent. Counts made in 23 fields, all being infested, and averaged 0.48 per plant. Range was 0.08-1.30 per plant. Some controls underway in area. (Smith et al.). TEXAS - Infestations observed light to medium, with a general increase in progress from lower Rio Grande Valley to Waco area. Injury noted in Waco area and as far north as Red River in north central section. (Gaines). ARIZONA - Infestations declined sharply in all areas, particularly in central and southwest, where temperatures were high during past week. (Ariz. Coop. Sur.). NEW MEXICO - Heavy infestations of Frankliniella occidentalis continue to damage seedling cotton in untreated fields in Dona Ana County. Stands being reduced in spots in some fields. (N. M. Coop. Rpt.).

CUTWORMS - MISSISSIPPI - Infestations extremely spotty, with general counts running exceptionally low in delta counties. (Merkl et al.). TEXAS - Some damage noted in cotton in coastal bend, southwest and upper coastal areas. (Gaines). CALIFORNIA - Heavy infestations of *Agrotis ipsilon* in cotton in Buttonwillow area, Kern County. (Cal. Coop. Rpt.).

APHIDS - GEORGIA - Light to heavy infestations of *Aphis gossypii* on cotton in Randolph, Calhoun, Dooly, Crisp, Turner, Wilcox, Colquitt, Cook, Berrien, Lowndes, Ware, Pierce, Wayne, Tattnall, Johnson and Washington Counties. (Maxwell, Johnson). MISSISSIPPI - Very light aphid infestations general in delta counties; no serious infestations reported. (Merkl et al.). OKLAHOMA - Light populations of *A. gossypii* (4 and 6 per plant) noted in 2 cotton fields in Jackson and Tillman Counties. Plants still in 2-leaf stage. (Hatfield). TEXAS - Populations of unspecified species rather high in coastal bend, southeast, upper coastal and south central areas. A rapid buildup of lady beetles and other predators along with heavy rainfall decreased populations. (Gaines). NEW MEXICO - Light and spotty infestations of *A. medicaginis* on seedling cotton in Dona Ana County. (N. M. Coop. Rpt.).

FLEAHOPPERS - TEXAS - Counts increasing on cotton as the pest moves from alternate host plants. In lower Rio Grande Valley, counts averaged 4 or 5 per 100 terminals, with some counts as high as 40 percent. Nymphs noted as far north as Waco area. (Gaines). ARIZONA - High populations of *Spanogonicus albofasciatus* present in central and southeast area cotton. A problem may occur when squaring begins. (Ariz. Coop. Sur.).

BOLL WEEVIL (*Anthonomus grandis*) - MISSISSIPPI - No weevils found on seedling cotton in delta counties. Trap plants at 3 locations being checked 3 times a week. First weevil found on a trap plant on April 29 and 4 found on trap plants in same field on May 12. All weevils found on plants out in field. No activity noted on trap plants in or adjacent to hibernation areas. (Merkl et al.). LOUISIANA - Found in 1 of 3 fields examined in Tallulah area. Counts averaged 8 per acre, ranging 0-25 per acre. The percent boll weevil survival in hibernation cages for the week ending May 13 was 0.28 compared with 0.62 for the same period in 1959. (Smith et al.). TEXAS - Adults active and feeding in fields as far north as Waco. (Gaines). In McLennan and Falls Counties, counts found at average rate of 83 per acre in 33 fields inspected. This compares with 84 per acre in 26 fields during corresponding week of 1959. (Parencia et al.).

PINK BOLLWORM (*Pectinophora gossypiella*) - ARIZONA - One moth collected in a light trap near Superior in northern Pinal County on May 8. This has been first collection since April 18. (Ariz. Coop. Sur.).

CABBAGE LOOPER (*Trichoplusia ni*) - ARIZONA - Populations increased in central area on cotton, with considerable foliage damage in some fields. Diseased larvae noted throughout area. (Ariz. Coop. Sur.). TEXAS - Few reported in southern areas. (Gaines).

BROWN COTTON LEAFWORM (*Acontia dacia*) - TEXAS - Larvae observed on cotton in Live Oak County in southeast and McLennan and Falls Counties in central area. (Gaines).

BEET ARMYWORM (*Spodoptera exigua*) - ARIZONA - Light to medium infestations continue in young cotton in central area. (Ariz. Coop. Sur.).

BOLLWORMS (*Heliothis* spp., et al.) - GEORGIA - Egg counts 2-3 per 100 cotton terminals in Randolph, Calhoun, Dooly, Crisp, Turner and Wilcox Counties (Maxwell); and 1-3 per 100 terminals in Colquitt, Lowndes, Ware, Pierce, Wayne and Candler Counties. (Johnson). One larva per 100 terminals found in each of 2 fields in Calhoun and Randolph Counties. (Maxwell). MISSISSIPPI - Light trap catches low in delta area; no field activity reported. (Merkl et al.).

SPIDER MITES - TEXAS - Populations generally light, with a few isolated medium infestations. (Gaines).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

MOUNTAIN PINE BEETLE (*Dendroctonus monticolae*) - CALIFORNIA - Severe in lodgepole pine, killing single trees and entire stands of pole to mature trees in a 1,000-acre area east of Mt. Shasta in Shasta Trinity National Forest. (Prevey).

SOUTHERN PINE BEETLE (*Dendroctonus frontalis*) - TEXAS - Total of 26 new spot locations found scattered throughout epidemic area by aerial detection flight on April 27. Controls continue in Hardin and Liberty Counties, but 54 spots lack control. One spot is at least 100 acres in size, and there are 6 spots with estimated 7,000 to 10,000 brood trees present. Three spots have nearly doubled in size since December. (Young).

RED TURPENTINE BEETLE (*Dendroctonus valens*) - MARYLAND - Adults on white pine at Bittinger, Garrett County, May 7. (U. Md., Ent. Dept.).

BLACK TURPENTINE BEETLE (*Dendroctonus terebrans*) - OKLAHOMA - Light in 15 areas checked in Pushmataha County. (Goin). Light numbers in some pine stumps in Broken Bow area. All stages except eggs found. (Okla. Coop. Rpt.).

DOUGLAS-FIR ENGRAVER (*Scolytus unispinosus*) - CALIFORNIA - Causing partial and complete kill of Douglas-fir in Redding area, Shasta County. New locality record for this species. Damage is associated with 2 years of drought. (Rippleye).

ENGRAVER BEETLES (*Ips* spp.)- TEXAS - Attacked pine on recently burned areas in Trinity County. (Young). OKLAHOMA - Light numbers in dead or dying limbs of native pines in 15 areas checked in Pushmataha County. (Goin). Common in a number of pines felled under electric lines along roadsides in southeast. (Okla. Coop. Rpt.).

PALES WEEVIL (*Hylobius pales*) - OKLAHOMA - Larvae and pupae light in a few pine stumps in Broken Bow area. (Okla. Coop. Rpt.).

A STRIPED OAKWORM - TEXAS - Defoliated oaks in Burleson County. (Young).

PINE SPITTLEBUG (*Aphrophora parallela*) - MARYLAND - Nymphs common on loblolly and Virginia pine in central and southern sections. (U. Md., Ent. Dept.).

PINE NEEDLE MINER (*Exotelia pinifoliella*) - INDIANA - Abundant in jack pine at Reynolds, White County. (Schuder).

A SCALE INSECT (*Matsucoccus paucicicatrices*) - CALIFORNIA - Severely damaging sugar pine saplings; killing up to 50 percent in a 300-acre stand in Elk Creek, Glenn County. (Kulosa).

PINE NEEDLE SCALE (*Phenacaspis pinifoliae*) - WYOMING - Moderate infestations on pines in Lander-Riverton areas and near Green River. (Fullerton).

SAWFLIES - MARYLAND - *Neodiprion pratti pratti* denuding Virginia pines at several localities in Montgomery and Prince Georges Counties. (U. Md., Ent. Dept.). NORTH CAROLINA - *Neodiprion* sp., probably *pratti pratti*, severely defoliated trees south of Kerr Lake in northwest Vance and northeast Granville Counties. Scattered defoliation elsewhere in vicinity and in Warrenton area. About three-fourths of the larvae have left the trees. (Jones). INDIANA - *N. sertifer* larvae hatched and feeding on first few needles in northern area. (Schuder). KANSAS - *Arge* spp. causing some defoliation of oak in Franklin County and elm in Riley County; more serious on elm than oak. (Thompson). DELAWARE - Larvae of *Nematus ventralis* still appearing, with some feeding injury present on willows in western Kent County. (Burbutis, Mason). CALIFORNIA - *Susana cupressi* heavy on *Cupressus* sp. in Fresno, Fresno County. (Cal. Coop. Rpt.).

A LEAFHOPPER - IDAHO - Unidentified species ovipositing on leaves of Populus trichocarpa along Boise River in Parma area. Egg masses on one tree ranged from 1-10 per leaf, with 1-8 eggs per mass. (Scott).

SATIN MOTH (Stilpnotia salicis) - OREGON - Adults appearing in Salem blacklight trap collections during May. (Larson).

A TUSSOCK MOTH (Hemerocampa sp., doubtfully leucostigma) - FLORIDA - Collected on live oak at St. Augustine Beach, St. Johns County, on May 1. Locally abundant at Anastasia State Park. Many larvae completed feeding on live oak foliage and making cocoons. Some cocoons contained pupae. (Hetrick).

SPRING CANKERWORM (Paleacrita vernata) - KANSAS - Damaging trees in Barton County. Control applied in Iola, Allen County, and Ottawa, Franklin County. (Calkins). NEBRASKA - Larvae moderately damaging shade tree foliage and causing concern to homeowners. Control underway. (Simpson).

FOREST TENT CATERPILLAR (Malacosoma disstria) - LOUISIANA - Infestations dropping off but they are still found on oak and tupelo-gum in some areas including Iberia Parish. (Spink). PENNSYLVANIA - Recently hatched on maple in Somerset County. Numbers much less than last year in area where control applied in 1959. Larvae one-half grown on ornamental oaks in Greensburg, Westmoreland County. (Udine).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - NEW YORK - Larvae crawling about leaving wild cherry trees which are now mostly defoliated at Poughkeepsie. (N. Y. Wkly. Rpt.). PENNSYLVANIA - Leaves of wild cherry and other trees defoliated and immatures migrating in southwest area. Very heavy infestation present again this year. (Udine).

AN ARCTIID (Halisidota argentata) - OREGON - Reported defoliating fir trees in Corvallis area during early May. (Allen).

BIRCH LEAF MINER (Fenusa pusilla) - NEW YORK - On Long Island, adults have laid most of the eggs and mines had not been started in two areas. At Poughkeepsie, larvae had mined up to one-fourth inch and adults still abundant. (N. Y. Wkly. Rpt.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - UTAH - Severe at Salt Lake City. (Knowlton).

FLEA BEETLES - NEW YORK - Damaging partly-developed elm leaves in Ithaca area where large numbers were present earlier. (N. Y. Wkly. Rpt.).

BOXWOOD LEAF MINER (Monarthropalpus buxi) - DELAWARE - Miners fairly heavy in unsprayed American boxwood trees in New Castle County. Pupation completed and adults emerging. (Burbutis, Mason).

CANKERWORMS - NEW YORK - Abundant and causing some damage to linden, elm and other trees on Long Island. On May 11, young larvae making small holes in leaves. (N. Y. Wkly. Rpt.).

A LOCUST LEAF ROLLER (Obolodiplosis robiniae) - DELAWARE - Larvae common on locust and rolling edges of leaves in western Kent County. (Burbutis, Mason).

MITES - NEW YORK - A taxus bud mite active in southeastern area. Lateral and terminal buds blasted and swollen but not developed and growing as uninfested buds. (N. Y. Wkly. Rpt.). NEW MEXICO - Tetranychus sp. heavy on arborvitae, juniper and cypress in many ornamental plantings throughout the State. (N. M. Coop. Rpt.).

OBLIQUE-BANDED LEAF ROLLER (Archips rosaceana) - PENNSYLVANIA - In Centre County 90 percent of hawthorn terminals infested. (Gesell).

APHIDS - OREGON - Prociphilus sp. abundant and curling leaves of ash in Salem area. Some parasitism evident May 10. (Capizzi). OKLAHOMA - Several species light on pines in southeast. Numbers apparently decreasing. (Okla. Coop. Rpt.). KANSAS - Unidentified species on unsprayed roses in Allen and Douglas Counties. (Calkins). MARYLAND - Aphids heavy on rose terminals in central sections. (U. Md., Ent. Dept.). DELAWARE - Macrosiphoniella sanborni abundant on chrysanthemums in Newark area of New Castle County. (Burbutis, Mason).

BAGWORM (Thyridopteryx ephemeraeformis) - KANSAS - Eggs, examined in Franklin, Shawnee and Riley Counties, expected to hatch within two weeks from May 13. (Thompson).

A COSMOPTERYGID MOTH (Stagmatophora ceanothiella) - CALIFORNIA - Heavy on Ceanothus sp. in Santa Barbara County. (Cal. Coop. Rpt.).

DOGWOOD TWIG BORER (Oberea tripunctata) - NORTH CAROLINA - Larvae injuring dogwood locally in Carteret County. (Williams, Farrier).

COCCIDS - CALIFORNIA - A new genus and species of mealybug was collected by H. L. Wilson on Juniperus sp. in Coalinga area, Fresno County, and by G. Beevor in Rosamond, Kern County. Det. H. L. McKenzie. Lecanium corni complex heavy on California holly in Oakville, Napa County. L. kunoensis occurred on pyracantha and peach in Paradise, Butte County. Second Butte County location. (Cal. Coop. Rpt.). UTAH - Lepidosaphes ulmi severe on nursery plants of green ash and buffaloberry at Salt Lake City. (Knowlton).

A HOLLY LEAF MINER (Phytomyza sp.) - DELAWARE - Adults emerging from American holly throughout State. Adult feeding injury rather heavy on new foliage. (Burbutis, Mason).

JUNIPER WEBWORM (Dichomeris marginella) - NORTH CAROLINA - Severe injury to juniper locally in Camden County. (Teuten, Farrier).

A PSYLLID (Pachypsylla astericus prob.) - CALIFORNIA - Heavy on hackberry in Fresno, Fresno County. Collected by H. Dunnigan. Det. H. H. Keifer. (Cal. Coop. Rpt.).

ROSE CURCULIO (Rhynchites bicolor) - OREGON - Adults common on untreated rose bushes in Willamette Valley, May 10. (Capizzi).

A THRIPS (Frankliniella occidentalis) - NEW MEXICO - Damaging roses in most areas of State. Reinfestation is rapid on treated plants. (N. M. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

FACE FLY (Musca autumnalis) - MARYLAND - Collected on shrubbery, May 6, by B. D. Albuquerque, at Swallow Falls State Park, Garrett County. New record for State. Det. C. W. Sabrosky. (U. Md., Ent. Dept.). VIRGINIA - Cool weather slowing activity. (Turner). NEW JERSEY - Reported on horses and ponies and averaged 25 per dairy cow locally. (Ins.-Dis. Newsl.).

EYE GNATS (Hippelates spp.) - CALIFORNIA - Heavy populations of H. collusor and H. robertsoni causing severe irritation to residents and animals in Green Valley, Pauma Valley and Borrego Valley, San Diego County. Heavy in San Jacinto-Hemet Valley, in Barstow-Hinkley area of San Bernardino County, and severe in El Toro and Santa Ana areas. H. pusio also occurs in these areas in Orange County. Medium in Coachella Valley, Riverside County. Collected and determined by M. S. Mulla. (Cal. Coop. Rpt.).

MOSQUITOES - DELAWARE - First brood of adult *Aedes sollicitans* now emerged. (Darsie). MINNESOTA - Of 100 larval collections made May 1-7, 48 *Aedes vexans*, 13 *Culiseta inornata* and 2 *Culiseta* spp. were found. (Minn. Ins. Rpt.). UTAH - *Anopheles freeborni* and a few *Aedes* sp. annoying at Logan. Populations of mosquitoes very low in Weber County. *Culiseta inornata* is most numerous in trap catches, followed by *Culex tarsalis*. Larvae of *Aedes dorsalis* and *A. nigromaculis* present. Control applied on 390 acres. Mosquitoes troublesome at Moab and Green River in southeast. (Knowlton, Fronk).

HORN FLY (*Siphona irritans*) - OKLAHOMA - Counts averaged about 150 per cow and 500 per bull on range animals in the southeast. (VanCleave). INDIANA - Observed on cattle in pastures in Montgomery, Putnam, Owen, Greene, Martin and Dubois Counties, May 5. Counts ranged up to 20 flies per animal infested. (Dobson). UTAH - Annoying and numerous on cattle in Washington County. (Knowlton).

HORSE FLIES - OKLAHOMA - Unidentified species averaged 10 per animal on 8 calves in Choctaw County. (Goin).

CATTLE GRUBS (*Hypoderma* spp.) - NORTH CAROLINA - Cattle running from heel flies in Buncombe County. (Palmer).

BLACK BLOW FLY (*Phormia regina*) - INDIANA - Larvae common in dehorned cattle at one location in Dubois County, May 5. (Dobson).

STABLE FLY (*Stomoxys calcitrans*) - INDIANA - Appearing on cattle in Dubois County, May 5-6. (Dobson, Matthew).

AMERICAN DOG TICK (*Dermacentor variabilis*) - SOUTH DAKOTA - Numerous on pets in eastern area. (N. D. Ins. Rpt.).

LONE STAR TICK (*Amblyomma americanum*) - OKLAHOMA - Common on foliage in wooded areas throughout the southeast. (Okla. Coop. Rpt.).

BENEFICIAL INSECTS

HONEY BEE (*Apis mellifera*) - WISCONSIN - Wintered well except in the Indian Head area. Packaged bees received from southern sources appear to have too many old bees for greatest success and are dwindling in numbers in many hives. Adverse spring weather has contributed further to decline of already weakened colonies, but properly tended colonies are expected. (Wis. Coop. Sur.). MINNESOTA - Colonies making satisfactory gains in spite of cool weather. Early packages gaining rapidly, averaging 4-5 frames of brood on May 10. Lack of ample feed is only drawback at this stage. Supplies of new queens may be fairly scarce due to lack of good mating weather and sufficient numbers of drones in some southern breeding apiaries. (Minn. Ins. Rpt.). CALIFORNIA - Inspection reports indicate less American foulbrood loss than in 1959, but average incidence of disease remains above 3 percent. Nosema disease has caused some difficulty in package bee operations. Insecticide losses continue as a major problem. Locoweed has caused losses in some areas and the condition known as "desert disease" caused severe losses in parts of Imperial County. Many colonies now at optimum population and swarming is about normal. Oranges yielded well in Tulare County, while in southern counties orange flow was of short duration; sage and buckwheat prospects are poor in most areas. Colonies are being moved onto alfalfa locations. Overcrowding is again anticipated in cultivated areas, increasing possibility of disease spread among migratory apiaries. (Cal. Coop. Rpt.).

HYMENOPTEROUS PARASITES- WISCONSIN - Adults of *Ophion* sp. numerous in light trap collections. (Wis. Coop. Sur.). COLORADO - *Bathyplectes curculionis*, a parasite of alfalfa weevil, averaged 4-8 per 100 sweeps in Larimer and Weld Counties. (Colo. Ins. Sur.). OKLAHOMA - Heavy populations of *Aphidius testaceipes* (6 wasps and 50 aphid mummies per linear foot) noted in field of oats infested with greenbug in Marshall County. (Vinson).

LADY BEETLES - MISSOURI - Counts of unspecified species in southeast area alfalfa averaged 0.5 adult per sweep; numbers swept from southwest area alfalfa lower because of extremely low temperature. (Munson, Thomas, Kyd). OKLAHOMA - Hippodamia convergens light (4 per square foot) in field of alfalfa in Beaver County (Owens); ranged 0-4 per square foot of crown area in 5 fields in southwest area (Hatfield); light to medium (0.5-6 per sweep) in 5 fields of alfalfa in south central area, with medium numbers noted in 2 small grain fields (Vinson); light to heavy (0.2-10 per sweep) in 8 Choctaw County fields (Goin); light (0.5-1.0 per sweep) in a field of alfalfa in Okfuskee County (Meharg). KANSAS - Hippodamia convergens and Coleomegilla maculata fuscilabris were present in most fields examined in the northeastern and east central areas of the State, with counts of less than one per sweep or per linear foot. (Peters). NEBRASKA - H. convergens and Coleomegilla maculata lengi populations low, but increasing gradually along with host insects. Averaged 3 per 10 sweeps in most fields of alfalfa and less than one per 25 sweeps in fields of wheat. (Simpson). WISCONSIN - Adults of unspecified species observed in good numbers feeding on aphid eggs. (Wis. Coop. Sur.). WYOMING - Unspecified species averaged 3 per 25 sweeps in 100 sweeps per field in alfalfa in the Big Horn Basin. (Fullerton). COLORADO - Hippodamia spp. averaged 4 per 100 sweeps in Weld and Larimer Counties. (Colo. Ins. Sur.). IDAHO - Adults of numerous species abundant in alfalfa checked in Moscow area (Manis); averaged one adult per sweep in fields of alfalfa checked in Canyon County (Bechtolt).

A CHRYSOMELID (Gastrophysa cyanea) - NORTH CAROLINA - Large numbers destroying dock in pastures in Montgomery County. (Bowers, Farrier).

A FLOWER BUG (Orius insidiosus) - NEBRASKA - Counts less than one per 25 sweeps in all crops. (Simpson).

LACEWINGS (Chrysopa spp.) - NEBRASKA - Counts less than one per 25 sweeps in all crops. (Simpson). KANSAS - Found in most northeastern and east central area fields examined; less than one per sweep or one per linear foot of row. (Peters). OKLAHOMA - Ranged 0-2 per square foot of crown area in 5 fields of alfalfa surveyed in southwest area (Hatfield); light to medium populations (0-2 per sweep) noted in 8 fields checked in Choctaw County (Goin).

NABIDS (Nabis spp.) - OKLAHOMA - Averaged 2 per square foot of crown area in a field of alfalfa checked in Comanche County (Hatfield); averaged 0-2 per sweep in 8 fields checked in Choctaw County (Goin). KANSAS - Counts were less than one per sweep or one per linear foot of row in most fields examined in northeastern and east central areas. (Peters). NEBRASKA - Average 4 per 10 sweeps in alfalfa. (Simpson). WYOMING - Averaged 1 per 25 sweeps in Big Horn Basin alfalfa fields; 100 sweeps made per field. (Fullerton).

SYRPHIDS - COLORADO - Averaged one larva per 100 sweeps in Larimer County alfalfa. (Colo. Ins. Sur.).

MISCELLANEOUS INSECTS

CUTWORM MOTHS - TEXAS - Chorizagrotis auxiliaris and other species have caused great concern to residents by coming to lights at night in Ward, Glasscock and other western counties. (Texas Coop. Rpt.). NEW MEXICO - Chorizagrotis sp. a nuisance around homes in Las Cruces and El Paso. (N. M. Coop. Rpt.).

CASEMAKING CLOTHES MOTH (Tinea pellionella) - MISSOURI - Heavy infestation reported in feathers in bottom of pigeon nests in a pigeon house. (Stone).

A FALSE CHINCH BUG (Nysius sp.) - ARIZONA - Medium populations reported about homes. (Ariz. Coop. Sur.).

CLOVER MITE (Bryobia praetiosa) - DELAWARE - Continues to cause much annoyance in and around homes in New Castle County. (Burbutis, Mason). INDIANA - Numerous requests for control received during past few weeks. (Schuder).

TERMITES (*Reticulitermes* spp.) - MARYLAND - Reproductive forms of *R. flavipes* swarming in homes at 2 locations in Prince Georges County. (U. Md., Ent. Dept.). OREGON - *R. hesperus* found in large office building in Salem. (Larson).

MUSHROOM MITE (*Tyrophagus lintneri*) - CALIFORNIA - Light populations on cotton seed in Indio, Riverside County. (Cal. Coop. Rpt.).

CORRECTIONS

CEIR 10(19):361 - BOLL WEEVIL (*Anthonomus grandis*) note from South Carolina should read as follows: "One adult observed April 11 in Spartanburg County and one adult captured April 20 in Union County."

CEIR 10(20):382 - Note on BANDED CUCUMBER BEETLE (*Diabrotica balteata*) from Florida should read as follows: "Insect not very abundant over most of winter vegetable crop season for 1959-60. Insect more abundant on April 27 than it had been during the current season and more abundant than for nearly a year. On May 3, the insect was more abundant than earlier this season; and it is not as abundant as it was over a year (13-14 months) ago." (Wolfenbarger).

ADDITIONAL NOTES

VERMONT - First specimens of a SPITTLEBUG observed on trefoil May 13, as well as a few individuals of TARNISHED PLANT BUG (*Lygus lineolaris*). EUROPEAN RED MITE (*Panonychus ulmi*) numerous in many orchards; egg hatch better than 75 percent complete in Shoreham area, Addison County, as of May 11. Heaviest prebloom population observed was 300-400 per spur. No pupation of overwintering CODLING MOTH (*Carpocapsa pomonella*) larvae as of May 16. CABBAGE MAGGOT (*Hylemya brassicae*) egg laying has begun. (MacCollum).

IDAHO - Overwintering adults of ALFALFA WEEVIL (*Hypera postica*) common on alfalfa checked near Moscow; few larvae reported from some Canyon County fields, but populations throughout southwest area of State continue quite low. ALFALFA LOOPER (*Autographa californica*) light in several Canyon County fields checked. PEA APHID (*Macrosiphum pisi*) populations much below normal on alfalfa in sharp contrast to population explosion in southwest area of State during 1959. Adults of a CLOVER BUD CATERPILLAR (*Grapholitha conversana*) active in Moscow area clover, with considerable mating activity noted. SWEETCLOVER WEEVIL (*Sitona cylindricollis*) populations normally heavy in Canyon County on all sweetclover. WHEAT CURL MITE (*Aceria tulipae*) infestations heavy on volunteer stands of barley near Moscow. Adults of a WIREWORM (*Limonius* sp., probably *canus*) active and often abundant through many northern areas in the State. PEAR LEAF BLISTER MITE (*Eriophyes pyri*) infesting pear trees in a fruit-tree nursery near Moscow. ASPARAGUS BEETLE (*Crioceris asparagi*) adults appearing in southwest; injuring asparagus at Parma. CABBAGE SEEDPOD WEEVIL (*Ceutorhynchus assimilis*) adults extremely numerous on mustard in Moscow area. ONION MAGGOT (*Hylemya antiqua*) populations increasing in southwestern area but still below economic levels. STRAWBERRY ROOT WEEVIL (*Brachyrhinus ovatus*) attacking hop crowns in Parma-Wilder area; range 5-35 per crown. STRAWBERRY LEAF ROLLER (*Ancylis comptana fragariae*) adults active on strawberries near Moscow; no immature stages yet observed. (Manis, Bechtolt, Waters, Gittins, Scott).

MISSOURI - Counts of PEA APHID (*Macrosiphum pisi*) on alfalfa in southeastern area ran as high as 400 per sweep. From 30-50 percent of aphids in southeast show discoloration from disease. Counts on alfalfa in southwest ranged from 100 to over 600 per sweep. Extensive damage to alfalfa evident throughout southwest area. (Munson, Thomas, Kyd).

NORTH DAKOTA - GRASSHOPPERS - Survey in northwestern counties showed eggs of *Melanoplus bivittatus* and *M. bilituratus* in coagulated stage. Development showed no particular change since survey observations made week of April 11. However, range survey in an area northeast of Williston shows *M. bilituratus* eggs in advanced stages of segmentation. (N. D. Ins. Rpt.).

LIGHT TRAP COLLECTIONS

	Pseud.	Agrot.	Prod.	Perid.*	Laphyg.	Protoparce		Helio.
	unip.	ips.	ornith.	saucia	frug.	sexta	quinq.	zea
ARKANSAS								
Morrilton 4/28-5/11	7	7						3
Kelso 4/28-5/11	2	6		1				2
Fayetteville 4/28-5/11	6	9		8				24
FLORIDA								
Quincy 5/2	96	7	4			1		
ILLINOIS								
Urbana 5/6-12	1							
INDIANA (County)								
Lawrence 5/2-5	56	10		4				
KANSAS								
Garden City 5/4, 6-10	22	20	16	18				
Hays 5/7, 9-10		4		5				
Manhattan 5/5	1							
Mound Valley 5/5, 7, 10	1			1				
Wathena 5/5-10	2	14						
LOUISIANA								
Franklin 5/9, 11	1	3	1	1				2
Baton Rouge 5/6-12		4	11	2				4
MARYLAND								
Fairland 5/11-15	3	1		1				
MISSISSIPPI								
Stoneville 5/6-12**	23	4	3	2		3		3
NEBRASKA								
Scotts Bluff 4/5-5/11		1		5				
Kearney 5/4-5	8	5		3				
North Platte 5/1-10	13	25		50				
Lincoln 5/5-13	63	10						
NORTH CAROLINA								
Faison 5/12	2	3						
SOUTH CAROLINA								
Charleston 5/9-15		10	7			1		1
Clemson 5/7-13	5	2						2
TEXAS								
Brownsville 5/3-6	2	20	2		5		5	6
Waco 5/7-13	17	3		20				15

Additional Collection

MISSISSIPPI - (Stoneville, 5/6-12); Heliothis virescens - 1.

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* Forbes, W. T. M., 1954. Lepidoptera of New York and neighboring states. Pt. 3, (Noctuidae):51.

** Two traps - Stoneville

SOME OF THE MORE IMPORTANT PESTS FOR 1959

Due to suggestions of cooperators, two categories of the more important pests of 1959 are summarized. These are "Crop and Forest Pests" and "Man and Animal and Household Pests." The majority of the states employed the two lists, while some chose to use a single listing. In the table below, where a state shows two lists, the first is for crop and forest pests and the second is for man and animal and household pests unless otherwise designated.

ARIZ.	Lygus bugs	Beet armyworm	Cabbage looper	Bollworm	Spotted alfalfa aphid	House fly	Spider mites	Common cattle grub	Green peach aphid	Southwestern corn borer
ARK.	Boll weevil	Corn earworm	Aphids	Southwestern corn borer	Stored-grain pests	Mites	Armyworm			
	Horn fly	Horse flies	Stable fly	Termites	Mosquitoes					
CALIF.	Lygus bugs	*Heliothis zea*	Mites	Two-spotted spider mite	Loopers (*Trichoplusia ni*, *Autographa californica*)	Western pine beetle	Mountain pine beetle	California five-spined ips	Douglas-fir beetle	Fir engraver
	Horn fly	Cattle ticks (*Ixodes* spp., *Dermacentor* spp.)	Lice (*Haematopinus* spp.)	*Tabanus* spp.	Bird lice	Black blow fly	Mosquitoes	Termites		
COLO.	Two-spotted spider mite	Alfalfa weevil	Wheat curl mite	Grasshoppers	Codling moth	Potato psyllid	Beet webworm	Mexican bean beetle	Aphids	Corn earworm
DEL.	European corn borer	Corn earworm	Alfalfa weevil	European red mite	Green peach aphid	Dusky sap beetle	Cabbage looper	Japanese beetle	Asparagus beetle	Red-banded leaf roller
	Eastern subterranean termite	Salt-marsh mosquito	Brown-banded roach	House fly	Clover mite	Horn fly	Stable fly	American dog tick	Face fly	Boxelder bug
FLA.	Chinch bug	Florida red scale and purple scale	Citrus rust mite	A serpentine leaf miner	Spider mites on citrus	Corn earworm	Southern armyworm	Wireworms	Fall armyworm	Cabbage looper
GA.	Boll weevil	Corn earworm	Peach tree borers	Tobacco budworm	Aphids					
	Termites	Horn fly	House fly	Cockroaches	Lice					
IDAHO	Alfalfa weevil	Aphids (particularly pea aphid, clover aphid)	Mites (particularly two-spotted spider mite, clover mite)	Lygus bugs	Colorado potato beetle	Wireworms	Grasshoppers	Clover beetles	Elm leaf beetle	Douglas-fir beetle
	Clover mite	European earwig	Cattle lice	Mosquitoes	Deer flies	Rocky Mountain wood tick	Horn fly	Heel flies		
ILL.	Greenbug	Black cutworm	Corn root aphid	European corn borer	Corn rootworms	Cicadas	Grass thrips	Wireworms	Corn seed insects	Corn earworm
	Termites	Powder post beetles	Carpet beetle	House fly	Brown-banded roach	Stable fly	Face fly	Ants	Mosquitoes	Horn fly

Some of the More Important Pests for 1959 (Continued)

KANS.	Wheat curl mite	Greenbug	Pea aphid	Corn earworm	Grasshoppers	Sorghum webworm	Smaller European elm bark beetle	Stored-grain insects	European corn borer	Soil insect complex
	House fly	Termites	Cattle lice	Cattle grubs	Cockroaches	Clothes moth, carpet beetles	Stable fly	Hog lice	Horn fly	Poultry lice and mites
LA.	Boll weevil	Bollworm	Sugarcane borer	Southern corn rootworm	Fall armyworm	Stink bugs	Black turpentine beetle	Rice weevil	Cutworms	Sorghum midge
	Horn fly	*Reticulitermes* spp.	Cockroaches	Mosquitoes	*Tabanus* spp.					
MAINE	Spruce budworm	White-pine weevil	Woolly pine aphid (pine leaf aphid)	Elm bark beetles	Aphid complex on potatoes	Apple aphid	Apple maggot	Cutworms	European corn borer	Cyclamen mite
	Black flies (*Simulium* spp.)	Mosquitoes	House fly	Stable fly	Deer flies	Chicken mite	Fleas	Face fly	Biting midges	German cockroach
MD.	Alfalfa weevil	Angoumois grain moth	European corn borer	Corn earworm	Dusky sap beetle	Flea beetles	Green peach aphid	Pea aphid	Pine sawflies	Spider mites
	American dog tick	Biting flies	Boxelder bug	Carpet beetles	Cattle grubs	Cockroaches	Eastern subterranean termite	House fly	Old-house borer	Salt-marsh mosquito
MINN.	Greenbug	Apple maggot	Introduced pine sawfly	Corn leaf aphid	European corn borer	Spruce budworm	Larch sawfly	Grasshoppers	Beet webworm	Pea aphid
	Mosquitoes	Biting flies	House flies	Ants	Cockroaches	Cat and dog fleas	Boxelder bug	Wasps and hornets	Cattle lice	Clothes moths, carpet beetles
MO.	Corn earworm	Greenbug	European corn borer	Sorghum webworm	Spider mites	Hessian fly	Cutworms	Wireworms (*Melanotus* spp.)	Rice weevil	Saw-toothed grain beetle
MONT.	Grasshoppers	Alfalfa weevil	Beet webworm	Aphids	Mites	Wireworms	Cutworms	Root maggots	Shelter belt insects	Spruce budworm
	Mosquitoes	Cattle lice	Horn fly, stable fly	Cattle grubs	Stored-grain insects	Demestids	Clover mites	Earwigs	Biting flies	
NEBR.	Grasshoppers	European corn borer	Corn rootworms	Black cutworm (on corn)	Hessian fly	Corn earworm	Greenbug	Potato leafhopper	Two-spotted spider mite	Sweetclover weevil
	Mosquitoes	Stable fly	House fly	Horn fly	Cattle lice	Cattle grubs	Fleas	Chiggers	Sheep ked	Fowl mites
NEV.	Pea aphid	Lygus bugs	Corn leaf aphid	Alfalfa weevil	Spider mites	Spotted alfalfa aphid	Cutworms	Onion maggot	Bark beetles	Elm leaf beetle
	Cattle grubs	Cattle lice	Mosquitoes	Horn fly	Ticks	Sheep ked	House fly	Eye gnats	Clover mite	Termites

Some of the More Important Pests for 1959 (Continued)

N. J.	Alfalfa weevil	European red mite	Codling moth	Corn earworm	European corn borer	Cabbage looper	Elm bark beetles	Colorado potato beetle	Green peach aphid	Two-spotted spider mite
	Salt-marsh mosquito	*Culex pipiens*	House fly	Eastern subterranean termite	German cockroach	Pavement ant	Black carpet beetle	Stable fly	Clover mite	Chicken mite
N.MEX.	Grasshoppers	Spotted alfalfa aphid	Pea aphid	Thrips	*Heliothis zea*	Codling moth	Southwestern corn borer	Spruce budworm	Lygus bugs	Cabbage looper
	Stored-grain pests	Horn fly	House flies	Cattle grubs	Sheep ked	Screwworm	Mosquitoes	Bot flies		
N. C.	Boll weevil	Cigarette beetle	Corn earworm	Mexican bean beetle	Rice weevil	Southern corn rootworm	Tobacco budworm	Tobacco hornworm	Tobacco wireworm	Two-spotted spider mite
	Cat flea	Chigger	A deathwatch beetle (*Xyletinus peltatus*)	Eastern subterranean termite	German cockroach	Horn fly	House fly	Northern fowl mite	Salt-marsh mosquito	Stable fly
N. D.	Grasshoppers	Wheat stem sawfly	Wireworms	Beet webworm	Potato flea beetle	Leafhoppers (*E. fabae*, *M. fascifrons*)	Barley thrips	European corn borer	Sweetclover weevil	Sugar-beet root maggot
	Horn fly	House fly	Mosquitoes	Cattle lice	Cattle grubs	Stable fly	Northern fowl mite	Sheep ticks	Mange mite on hogs	Dermestids and bran beetles
OHIO	Corn leaf aphid	Bronzed cutworm	European red mite	Corn earworm	Cottony maple scale	Eastern tent caterpillar	Black cutworm	Apple maggot	Meadow spittlebug	Potato leafhopper
	House fly	Face fly	Stable fly	Horse flies	Cockroaches	Wasps and bees	Mosquitoes (*Aedes* spp.)	Subterranean termites	Sheep scab mite	Carpet beetles
OKLA.	Greenbug	Corn earworm	Sorghum webworm	Boll weevil	Spotted alfalfa aphid	Elm leaf beetle	Southwestern corn borer	Fall armyworm	Grasshoppers	Corn leaf aphid
	Reticulitermes spp.	House fly	Cattle grub	Horn fly	Stable fly	*Tabanus* spp.	Lone star tick	Clothes moths	Cockroaches	*Dermacentor* spp.
OREG.	Codling moth	Pear psylla	Western cherry fruit fly	Aphids	Garden symphylid	Spruce budworm	Bark beetles (*Dendroctonus* spp.)	Black pollen beetle (*Meligethes nigrescens*)	Gray garden slug	Corn earworm
	Cattle grubs	Horn fly	Cattle lice	Mosquitoes	Varied carpet beetle	Termites	European earwig	Sheep ked	House flies	Cockroaches
PA.	Alfalfa weevil	Green peach aphid	Two-spotted spider mite	Bronzed cutworm	Red-banded leaf roller	Pales weevil	Forest tent caterpillar	Eastern tent caterpillar	Meadow spittlebug	European pine shoot moth
	Face fly	Horn fly	Stable fly	House fly	Cluster fly	Black carpet beetle	Powder post beetles	Fleas	Mosquitoes	Chigger

Some of the More Important Pests for 1959 (Continued)

R. I.	Solitary oak leaf miner	Birch leaf miner	Potato flea beetle	Three-lined potato beetle	Eastern tent caterpillar	Apple maggot	Japanese beetle	Stalk borer	Orange-striped oakworm	Oystershell scale
	Eastern subterranean termite	Black carpenter ant	Mosquitoes	House fly	Black carpet beetle	Saw-toothed grain beetle	Fleas	Various vespids	American dog tick	European earwig
S. D.	Grasshoppers	European corn borer	Greenbug	Potato leafhopper	Six-spotted leafhopper	Soil pests of corn	Lygus bugs	Sweetclover weevil, alfalfa weevil	Corn earworm	Beet webworm
	House flies	Horn fly	Stable fly	Cattle lice	Stored-grain, cereal pests	Mosquitoes	Cockroaches	Cattle grubs	Fabric pests	Ants (in homes)
TEX.	Cotton fleahopper	Boll weevil	Bollworm	Grasshoppers	Sorghum webworm	Rice weevil	Horn fly	Screw-worm	Cattle grubs	
UTAH	Bark beetles	Alfalfa weevil	Aphids on fruit	Pea aphid	Codling moth	Grasshoppers	Lygus bugs	*Tetranychus* spp.	Clover seed chalcid	Western harvester ant
	Stored-food beetles	Cattle lice	House flies	Termites	Cattle grubs	Mosquitoes	*Wohlfahrtia opaca*	Cockroaches	Horn fly	Sheep ked
VA.	Corn earworm	European corn borer	*Neodiprion pratti*	Alfalfa weevil	Spotted cucumber beetle	Cabbage looper	Armyworm	Aphids	Angoumois grain moth	Tobacco hornworm
	House fly	Termites	Cattle grubs	Horn fly	Mosquitoes	Cockroaches	Cattle lice	Clothes moths	Fleas	Horse flies
WASH.	*Tetranychus mcdanieli*	Cabbage maggot	Peach twig borer	Garden symphylid	Pear psylla	Orchard mites	*Agriolimax agrestis*, *Arion ater*	Corn earworm	Balsam woolly aphid	Grape mealybug
	Cattle grubs	Mosquitoes	Cattle lice	Cockroaches	House and stable flies	Rocky Mountain wood tick	Horn fly	Sheep ked	Hornets	Western subterranean termite
W.VA.	Alfalfa weevil	Meadow spittlebug	European corn borer	Corn earworm	Colorado potato beetle	Codling moth	Orchard mites	Eastern tent caterpillar	Forest tent caterpillar	
	Cattle grubs	Face fly	Horn fly	Stable fly						
WIS.	Greenbug	White-pine weevil	Cutworms	Corn earworm	Smaller European elm bark beetle	Six-spotted leafhopper	Larch sawfly	Pea aphid	Codling moth	Cabbage maggot
	House fly	Mosquitoes	Ants	Carpet beetles	Stable fly	Horn fly	Deer and horse flies	Clover mites	Powder post beetles	Clothes moths
WYO.	Alfalfa weevil	Grasshoppers	Potato psyllid	Lygus bugs	English grain aphid	Mexican bean beetle	Pea aphid	Oystershell scale	A spider mite (*Tetranychus* sp.)	A leaf blotch miner (*Phyllonorycter* sp.)
	Cattle grubs	Cattle biting louse	Mosquitoes	Horn fly	Sheep ked	Bot flies (*Gasterophilus* spp.)	Stable fly	Deer flies	Clover mite	House fly

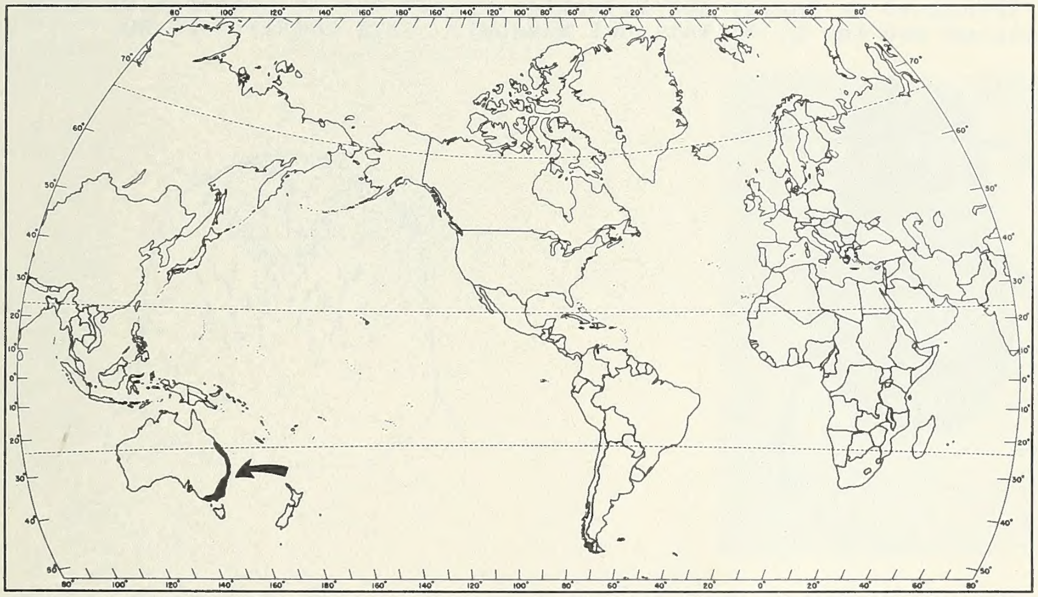
INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

PRUINOSE SCARAB (*Sericesthis pruinosa* Dalman)

Economic Importance: This scarab is a pest of turf in the coastal districts of eastern Australia. The species is abundant in permanent pastures of central and southern coastal districts of New South Wales, and in recent years has become a pest in irrigated lawns and turf in the tablelands of New South Wales, particularly Canberra where biological and ecological studies have been made. This species was first studied by W. W. Froggatt in 1919 at Leura, New South Wales, where it caused severe damage to golf links fairways in 1918-1919. Damage to lawns, golf links and miscellaneous crops has been reported in subsequent years. The botanical composition of the turf, texture and moisture relations of the soil and the presence of shrubs or trees appear to be the most important factors influencing the susceptibility of the turf to infestation. In lawns consisting of both grasses and clovers, larvae are most plentiful in areas where the grasses predominate. Also, the lighter the soil the more prone the turf appears to infestation, and damage is more prevalent in comparatively moist areas of the sod. In addition, dense larval populations cause far less damage to vigorous turf than to weak, shallow-rooted turf. It has been found in Canberra, that certain eucalyptus, particularly *Eucalyptus rubida*, *E. viminalis*, the leaves of which are eaten by the adults, appear to be associated with spread of the species in the city. Larvae have not been found in turf unless such trees were growing in the vicinity.

Hosts: Adults feed on trees and shrubs (see above). Larvae feed on roots of turf plants, especially grasses.

Distribution: The species is endemic to the coastal plain of eastern Australia and to the eastern slopes of the Great Dividing Range. It is distributed southwards from Bowen, Queensland, along the whole of New South Wales coast, across southern Victoria, and as far west as the southeastern district of South Australia.

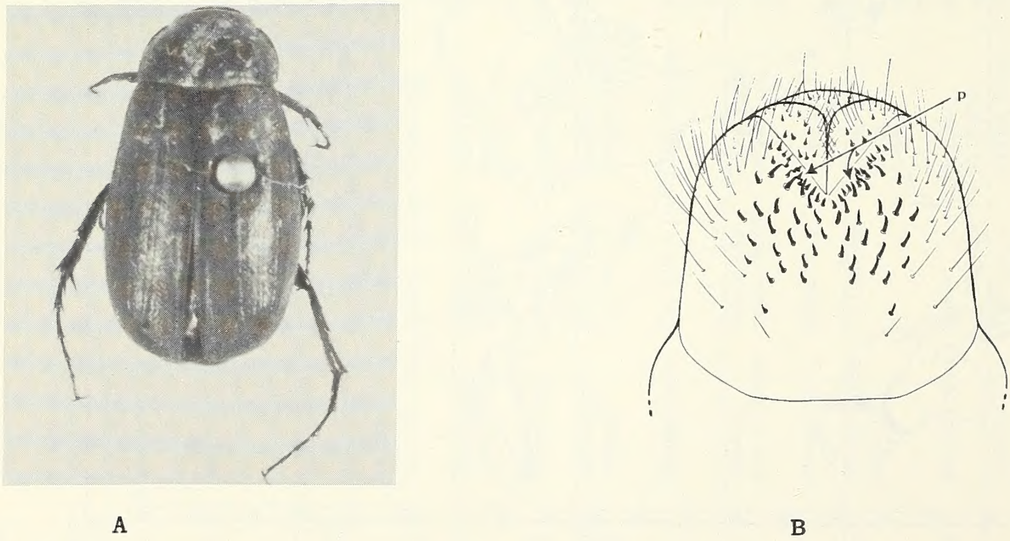


General Distribution of *Sericesthis pruinosa*

(Scarabaeidae, Coleoptera)

Life History and Habits: Pruinose scarab has a one-year life cycle. The adults fly and oviposit during the summer. There are 3 larval instars; of these, the first two are short and the final instar is commonly entered in early autumn. The latter is the overwintering state. Towards the end of the winter an immobile prepupal stage occurs, followed by pupation in the spring or early summer. Flights of adults begin at dusk and continue for one-half to one hour. The flight season varies according to the area; they probably occur in late October or early November in southern Queensland, in late November and early December at Leura in the Blue Mountains of New South Wales and from early to mid-January at Canberra. The adults feed on leaves of trees or shrubs at night, spending daylight hours under fallen bark or leaf litter. Gravid females burrow among or just below roots of turf and lay 20-40 eggs. The third-instar larvae feed on roots of grasses in March or April, completely severing the roots from the plants at times. Infestations are usually detected at this time. The turf dies off in irregular patches within a few days. Severely infested turf has a pronounced sponginess when walked on and may be picked up and rolled back carpetwise to expose a resting stage. They pupate in cells about an inch or so below the feeding level. The newly emerged adults remain in their pupal cells until shortly before emergence flight.

Description: ADULT - Head and pronotum reddish-brown, with purplish-green iridescence, particularly on the pronotum. Elytra brownish-yellow; between the rows of punctures there are four broad smooth intervals. The surface has characteristic dull sheen, or bloom from which the insect takes it trivial name. LARVA - Certain characters of the raster (shown below) and antennae distinguish the species from several closely related species. The raster bears palidia, consisting of two rows of specialized setae (pali) arranged in the form of a V having a basal angle of approximately 80 degrees. Palidia of this form are common to many species of Sericesthis and Anodontonyx (a genus closely related to, if not synonymous with, Sericesthis), but in most species the pali are so arranged that their sockets lie on a straight line; in S. pruinosa, as can be seen in the figure below, they are appreciably staggered. In this group of pasture scarabs, the penultimate segment of the larval antenna commonly bears a conspicuous anteroventral projection; in S. pruinosa, this is reduced to a short, blunt prominence. Using these characters, both second and third-instar larvae can be recognized. (Prepared in Survey and Detection Operations in cooperation with other ARS agencies and the U. S. National Museum). CEIR 10(21):5-20-60.



A

B

Figures of Sericesthis pruinosa: A - Adult. B - Raster of third-instar larva.

Major references: Carne, P. B. and Chinnick, L. J. 1957. Austral. Jour. Agr. Res. 8(6):604-616. Figure of raster. Adult - USDA photo.

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